

ANNUAL DRINKING WATER QUALITY REPORT

City of Samson Water Works

January - December 2023

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. Samson has two well sources pumping out of the Tallahatta and Hatchetigbe Aquifers. The water we provide to our customers requires no specialized treatment. However, **chlorine is added** for disinfection purposes. Samson has completed the Source Water Protection Plan that may be viewed at the Office during normal business hours. It provides more information such as potential sources of contamination. I'm pleased to report that our drinking water is safe and meets federal and state requirements. We are committed to ensuring the quality of your water.

If you have questions about this report or concerning your water utility, please contact Mrs. Michelle Flanery at (334)-898-7541 from 7am to 4 pm Monday-Friday. In case of emergency, call the Samson Police Department at (334)-898-7118. We want our valued customers to be informed about their water utility. If you want to learn more, please attend our regularly scheduled council meetings held on the first and third Tuesday of each month at the Samson Municipal Complex located at 10470 Hwy 52 West, at 5:30 p.m.

MAYOR AND COUNCIL MEMBERS

Clay King, Mayor
Ronald Davis

Roger Baine
Ed Janasky

Barbara Simmons
Queen Fitzpatrick

The City of Samson Water Works routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2023. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

PLAIN LANGUAGE DEFINITIONS

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present.

Not Required (NR) - Laboratory analysis not required due to waiver granted by the Environmental Protection Agency for the State of Alabama.

Parts per Million (ppm) or Milligrams per liter - One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per Billion (ppb) or Micrograms per liter - One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

Parts per Trillion (ppt) or Nanograms per liter (nanograms/l) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in 10,000,000,000 dollars.

Parts per Quadrillion (ppq) or Picograms per liter - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in 10,000,000,000,000 dollars.

Picocuries per liter (pCi/l) - Picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - Measure of radiation absorbed by the body.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - (Mandatory Language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Threshold Odor Number (T.O.N.) - The greatest dilution of a sample with odor-free water that still yields a just-detectable odor.

Maximum Contaminant Level - (Mandatory Language) The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - (Mandatory Language) The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal or (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level or (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water run-off, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by products of industrial processes and petroleum production and can also, come from gas stations, urban storm water run-off, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

TABLE OF PRIMARY CONTAMINANTS

At high levels some primary contaminants are known to pose a health risk to humans.

This table provides a quick glance of any primary contaminant detections.

CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED
Bacteriological			1,2-Dichlorobenzene (ppb)	600	ND
Total Coliform Bacteria	<5%	<1%	1,1,1-Trichloroethane (ppb)	200	ND
Turbidity	TT	0.1	1,1,2-Trichloroethane (ppb)	5	ND
Fecal Coliform & E. Coli	0	ND	1,1-Dichloroethene (ppb)	7	ND
Radiological			1,2,4-Trichlorobenzene (ppb)	70	ND
Beta/photon emitters (mrem/yr)	4	ND	1,2-Dichloroethene (ppb)	5	ND
Alpha emitters (pCi/l)	15	0.401	1,2-Dichloropropane (ppb)	5	ND
Combined radium (pCi/l)	5	0.392	1,4-Dichlorobenzene (ppb)	75	ND
Uranium (pCi/l)	30	ND	2,4,5-TP (Silvex) (ppb)	50	ND
Inorganic			Cis-1,2-Dichloroethene (ppb)	70	ND
Antimony (ppb)	6	ND	Di-(2-ethylhexyl)adipate (ppb)	400	ND
Arsenic (ppb)	10	ND	Di-(2-ethylhexyl)phthalates (ppb)	6	ND
Asbestos (MFL)	7	ND	Dichloromethane (ppb)	5	ND
Barium (ppm)	2	ND	Dinoseb (ppb)	7	ND
Beryllium (ppb)	4	ND	Dioxin [2,3,7,8-TCDD] (ppq)	30	ND
Bromate (ppb)	10	ND	Diquat (ppb)	20	ND
Cadmium (ppb)	5	ND	Endothall (ppb)	100	ND
Chloramines (ppm)	4	ND	Endrin (ppb)	2	ND
Chlorine (ppm)	4	2.61	Epichlorohydrin	TT	ND
Chlorine dioxide (ppb)	800	ND	Ethylbenzene (ppb)	700	ND
Chlorite (ppm)	1	ND	Ethylene dibromide (ppt)	50	ND
Chromium (ppb)	100	ND	gamma-BHC (ppm)	0.0002	ND
Copper (ppm)	AL=1.3	0.1	Glyphosate (ppb)	700	ND
Cyanide (ppb)	200	ND	Haloacetic Acids 5 (ppm)	0.06	0.013
Fluoride (ppm)	4	0.27	Heptachlor (ppt)	400	ND
Lead (ppm)	0.015	0.0011	Heptachlor epoxide (ppt)	200	ND
Mercury (ppb)	2	ND	Hexachlorobenzene (ppb)	1	ND
Nitrate (ppm)	10	ND	Hexachlorocyclopentadiene (ppb)	50	ND
Nitrite (ppm)	1	ND	Lindane (ppt)	200	ND
Total Nitrate & Nitrite	10	ND	Methoxychlor (ppb)	40	ND
Selenium (ppb)	50	ND	Oxamyl [Vydate] (ppb)	200	ND
Thallium (ppb)	2	ND	PCBs (ppt)	500	ND
Organic Chemicals			Pentachlorophenol (ppb)	1	ND
			PFA's-Total (ppb)	0.00036	ND
Acrylamide	TT	ND	Picloram (ppb)	500	ND
Alachlor (ppb)	2	ND	Simazine (ppb)	4	ND
Atrazine (ppb)	3	ND	Styrene (ppb)	100	ND
Benzene (ppb)	5	ND	Tetrachloroethene (ppb)	5	ND
Benzo(a)pyrene[PHAs](ppt)	200	ND	TOC	TT	ND
Carbofuran (ppb)	40	ND	Toluene (ppm)	1	ND
Carbon Tetrachloride (ppb)	5	ND	Toxaphene (ppb)	3	ND
Chlordane (ppb)	2	ND	trans-1,2-Dichloroethene (ppb)	100	ND
Chlorobenzene (ppb)	100	ND	Trichloroethene (ppb)	5	ND
2,4-D	70	ND	TTHM's (ppm)	0.08	0.033
Dalapon (ppb)	200	ND	Vinyl Chloride (ppb)	2	ND
Dibromochloropropane (ppt)	200	ND	Xylenes (ppm)	10	ND

TABLE OF SECONDARY AND UNREGULATED CONTAMINANTS

Secondary Drinking Water Standards are guidelines regulating contaminants that may cause cosmetic effects (such as tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. ADEM has Secondary Drinking Standards established in state regulations applicable to water systems required to monitor for the various components. **Unregulated contaminants** are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

CONTAMINANT	MCL	DETECTED	CONTAMINANT	MCL	DETECTED
SECONDARY			Aldicarb	N/A	ND
Aluminum	0.2	ND	Aldicarb Sulfone	N/A	ND
Chloride	250	98.3	Aldicarb Sulfoxide	N/A	ND
Color (PCU)	15	6.7	Aldrin	N/A	ND
Copper	1	0.1	Bromobenzene	N/A	ND
Foaming Agents (MBAs)	0.5	0.36	Bromochloromethane	N/A	ND
Iron	0.3	ND	Bromodichloromethane	N/A	0.0065
Nickel	0.1	0.0056	Bromoform	N/A	ND
Magnesium	75	9.1	Bromomethane	N/A	ND
Odor (T.O.N.)	5	ND	Butachlor	N/A	ND
Silver	7	ND	Carbaryl	N/A	ND
Sulfate	70	9.4	Chloroethane	N/A	ND
Total Dissolved Solids	500	179	Chlorodibromomethane	N/A	ND
Zinc	5	0.34	Chloroform	N/A	0.0056
SPECIAL			Chloromethane	N/A	ND
Calcium	N/A	25.2	Dibromochloromethane	N/A	0.0024
Carbon Dioxide	N/A	ND	Dicamba	N/A	ND
Manganese	0.05	ND	Dichlorodifluoromethane	N/A	ND
pH (SU)	N/A	7.7	Dieldrin	N/A	ND
Sodium	160	25.4	Fluorotrichloromethane	N/A	ND
Specific Conductance (umhos)	N/A	688	Hexachlorobutadiene	N/A	ND
Temperature (*C)	N/A	39.6	Isopropylbenzene	N/A	ND
Total Alkalinity	N/A	148	1,3-Dichlorobenzene	N/A	ND
Total Hardness (as CaCO ₃)	N/A	99.8	Methomyl	N/A	ND
Langelier Index	N/A	-0.19	Metolachlor	N/A	ND
UNREGULATED			Metribuzin	N/A	ND
1,1 - Dichloropropene	N/A	ND	MTBE- Methyl tert-butyl ether	N/A	ND
1,1,2,2 - Tetrachloroethane	N/A	ND	N-Butylbenzene	N/A	ND
1,1 - Dichloroethane	N/A	ND	Naphthalene	N/A	ND
1,2,3 - Trichlorobenzene	N/A	ND	N-Propylbenzene	N/A	ND
1,2,3 - Trichloropropane	N/A	ND	2-Chlorotoluene	N/A	ND
1,2,4 - Trimethylbenzene	N/A	ND	4-Chlorotoluene	N/A	ND
1,2,4 - Trichlorobenzene	N/A	ND	4-Isopropyltoluene	N/A	ND
1,3 - Dichloropropane	N/A	ND	Propachlor	N/A	ND
1,3 - Dichloropropene	N/A	ND	sec-Butylbenzene	N/A	ND
1,3,5 - Trimethylbenzene	N/A	ND	tert-Butylbenzene	N/A	ND
2,2 - Dichloropropane	N/A	ND	Trichlorofluoromethane	N/A	ND
3 - Hydroxycarbofuran	N/A	ND	Trichlorofluoromethane	N/A	ND

TABLE OF DETECTED DRINKING WATER CONTAMINANTS

CONTAMINANT	MCLG	MCL	RANGE	AMOUNT DETECTED	UNIT MEASURE	LIKELY SOURCE OF CONTAMINATION
BACTERIOLOGICAL CONTAMINANTS Through - DECEMBER 2023						
Total Coliform Bacteria	0	<5%	0 - <1%	<1%	MPN	Bacteria found in soil, and in water
Turbidity	0	TT		0.41	NTU	Soil Runoff
RADIOLOGICAL CONTAMINANTS Through - DECEMBER 2023						
Alpha emitters	0	15		0.401	pCi/L	Erosion of natural deposits
Combined Radium 226 & 228	0	5		0.392	pCi/L	Erosion of natural deposits
INORGANIC CONTAMINANTS Through - DECEMBER 2023						
Copper	0	1.3	0.0059-0.14	0.1	ppm	Corrosion of materials containing copper
Lead	0	0.015	ND-0.0056	0.0011	ppm	Corrosion of materials containing lead
Chlorine	MRDLG4	MRDL4	0.48-2.61	2.61	ppm	Water additive used to control microbes
Fluoride	4	4	ND-0.27	0.27	ppm	Water additive which promotes strong teeth
ORGANIC CONTAMINANTS Through-DECEMBER 2023						
Haloacetic Acids (HAA5)	0	0.06	0.0030-0.013	0.013	ppm	By-product of drinking water chlorination
Total Trihalomethanes(TTHM)	0	0.08	0.011-0.033	0.033	ppm	By-product of drinking water chlorination
SECONDARY CONTAMINANTS Through - DECEMBER 2023						
Chloride	N/A	250	6.9-98.3	98.3	ppm	Naturally occurring in the environment
Color	N/A	15	6.0-6.7	6.7	units	Naturally occurring in the environment
Foaming Agents (MBAs)	N/A	0.5	ND-0.36	0.36	ppm	Naturally occurring in the environment
Magnesium	N/A	75	8.9-9.1	9.1	ppm	Erosion of natural deposits
Nickel	N/A	0.1	ND-0.1	0.1	ppm	Naturally occurring in the environment
Sulfate	N/A	250	7.7-9.4	9.4	ppm	Naturally occurring in the environment
Total Dissolved Solids	N/A	500	159-179	179	ppm	Erosion of natural deposits
Zinc	N/A	5	ND-0.34	0.34	ppm	Naturally occurring in the environment
SPECIAL CONTAMINANTS Through - December 2023						
Calcium	N/A	N/A	22.1-25.2	25.2	ppm	Erosion of natural deposits
Langelier Index	N/A	N/A	min6.19-0.19	-0.19	N/A	Degree of saturation of calcium carbonate
pH	N/A	6.5-8.5	3.0-7.7	7.7	SU	Naturally occurring in the environment
Sodium	N/A	160	14.3-25.4	25.4	ppm	Naturally occurring in the environment
Specific Conductance	N/A	<500	282-688	688	umhos	Naturally occurring in the environment
Temperature, Water (*C)	N/A	N/A	39.6-39.6	39.6	deg C	Naturally occurring in the environment
Total Alkalinity	N/A	N/A	ND-148	148	ppm	Erosion of natural deposits
Total Hardness (as CaCO3)	N/A	N/A	92.4-99.8	99.8	ppm	Naturally occurring in the environment
UNREGULATED CONTAMINANTS Through - DECEMBER 2023						
Chloroform	N/A	N/A	0.0024-0.0056	0.0056	ppm	By-product of drinking water chlorination
Bromodichloromethane	N/A	N/A	0.0037-0.0065	0.0065	ppm	By-product of drinking water chlorination
Dibromoacetic Acid	N/A	N/A	ND	ND	ppm	By-product of drinking water chlorination
Dibromochloromethane	N/A	N/A	0.0022-0.0024	0.0024	ppm	By-product of drinking water chlorination
Dichloroacetic Acid	N/A	N/A	0.0019-0.0084	0.0084	ppm	By-product of drinking water chlorination
Trichloroacetic Acid	N/A	N/A	0.0011-0.0030	0.003	ppm	By-product of drinking water chlorination

GENERAL INFORMATION

As you can see by the tables, our system had no monitoring violations of allowable limits of contaminants in drinking water. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Some people may be vulnerable to contaminants in drinking water than the general population. People who are immuno-compromised, such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or individuals with other immune system disorders, some elderly, and infants, can be particularly at risk from infections. Those at risk should seek advice about drinking water from the health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

All drinking water, including bottled water, may be reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. **More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).**

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television, or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Samson Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Based on study conducted by the ADEM with the approval of EPA, a statewide waiver for the monitoring of Asbestos and Dioxin was issued. Thus, monitoring for these contaminants was not required.

We at the City of Samson Water Works work around the clock to provide top quality water to every tap. Carefully follow instructions on pesticides and herbicides you use for your lawn and garden and properly dispose of household chemicals, paints and waste oil. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.